

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-027398**Date Inspected:** 03-Apr-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** job site**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower**Summary of Items Observed:**

Quality Assurance (QA) Inspector Danny Smith arrived at the new San Francisco Oakland Bay Bridge to observe, document and perform a general visual verification and NDT. Upon arrival as noted above the QA Inspector observed Quality Control (QC) on site performing welding inspection.

Tower at 13mm:

At Tower Base 13 meters diaphragm, weld joint number W122, QA randomly observed ABF certified welder James Zhen ID #6001 continuing to perform 1G (flat position) Submerged Arc Welding (SAW) on the Partial Joint Penetration (PJP) T- joint between the 45mm thick external center diaphragm and 70mm tower. The welder was utilizing F7A6-EM12K-H8, 3.2mm electrode with corresponding Esab OK Flux 10.62 flux and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-4062-1. The joint being welded has a 45 degree bevel groove T- joint with an average root opening of 4.2mm and C-channel installed underneath that will serve as the backing bar. The plates were preheated to more than 225 °F. ABF/QC Fred Von Hoff was noted monitoring the welding parameters of the welder with measured working current of 550 amperes, 32.5 volts. Later in the shift QA noted the welding parameters, the workmanship and appearance of the completed fill satisfactory. At the end of the shift, SAW cover pass welding was completed and the welder performed the post weld heat treatment (PWHT) after welding using the same preheat temperature and heating machine and held it for three hours as required.

The QA Inspector noted the welding to be complete at this location.

FW Spencer-Mechanical Piping:

The QA Inspector observed the following: At location Panel Point PP104, weld I.D. numbers 37-2.5-104-SW the

WELDING INSPECTION REPORT

(Continued Page 2 of 3)

QA randomly observed FW Spencer qualified welder Damian Llanos perform Complete Joint Penetration (CJP) 1G flat position using Shielded Metal Arc Welding (SMAW) on the root pass and cover passes on the 4" diameter domestic water to 4" diameter domestic water lines respectively. The water line systems being welded are field welds along the OBG. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans approved procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder with measured working current of 93 amperes for E6010 electrode.

Longitudinal Stiffener plate:

The QA Inspector at random intervals, observed ABF welder Eric Sparks (ID 3040) perform the Shielded Metal Arc Welding (SMAW) process in the 3G vertical position on face "B" of the longitudinal stiffener plate S8W-PP61.5-W2-LSW on the interior of the OBG. The welder was observed utilizing 3.2mm E7018-H4R electrodes obtained from a baking oven and drawing amperage of 122. QC Inspector was on hand to monitor the welding, parameters and measure the inter-pass temperatures as they apply to ABF-WPS-D1.5-1010-1. On subsequent observations the welder was observed cleaning the work between passes by employing a small disc grinder, brushes and compressed air. The QA Inspector noted work at this location not completed at this time on this date

Exterior Deck Access Holes:

The QA Inspector at random intervals, observed ABF welder Sal Sandoval (ID 2202) perform the Flux Core Arc Welding (FCAW) process in the 1G flat position on face "A" of the Deck Access Hole (DAH) located at DAH-S8W-PP61.5-W2-LSW on the exterior of the OBG. The welder was observed utilizing E71T1- electrode, the QA Inspector noted an amperage of 290 and volts at 24.5. The QC Inspector was on hand to monitor the welding, parameters and measure the inter-pass temperatures as they apply to ABF-WPS-D1.5-3010-1. On subsequent observations the welder was observed cleaning the work between passes by employing a small disc grinder, brushes and compressed air. The QA Inspector noted work at this location not completed at this time on this date

Work performed appears to be in general compliance with contract documents.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

Conversations included welding work being performed on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Smith,Danny	Quality Assurance Inspector
----------------------	-------------	-----------------------------

Reviewed By:	Levell,Bill	QA Reviewer
---------------------	-------------	-------------